

whose magnitude has been carefully determined by Mr. Baxendell, the investigation of its changes becomes an easy matter.

It may be remembered by those who have examined it, that it has a south-preceding companion, *d* of Baxendell, 11.1 mag.; and another north-preceding, *e*, 11.5 mag.; while at a greater distance we find *f*, nearly following, 11.6 mag.; *g*, north, 11.7 mag.; and two minuter points *h*, south-following, 12.5 mag.; and *k*, just beyond *e*, 12.6 mag. On the 5th instant I found that it was much fainter than its nearest neighbours *d* and *e*, and smaller than *f* and *g*, the lesser of which has 11.7 mag., but brighter than *h* and *k*, the larger of which is rated 12.5 mag.; but as it was nearer *g* than *h*, it may be estimated as a little brighter than 12 mag. Taken altogether, the observations point to a period of less than twelve months; but further examination is obviously required; and whether the star may even now have reached its *minimum* is uncertain.

Hardwick Vicarage, 12 Dec. 1871.

### *On the Identity of the Triple Star H. i. 13.*

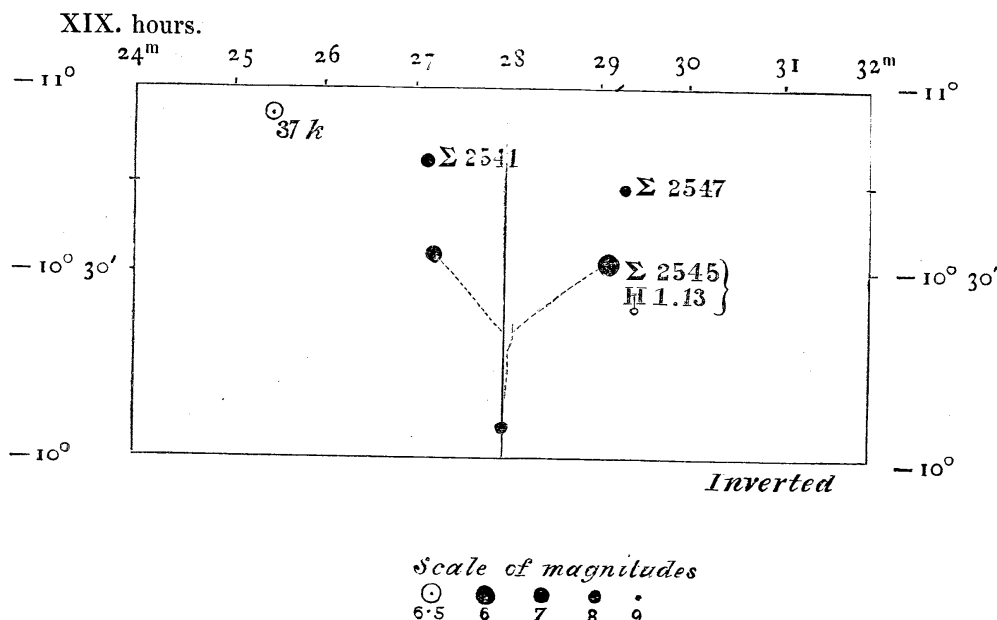
By George Hunt, Esq.

In the *Monthly Notices*, November, 1862, the late lamented Mr. Dawes wrote a paper with the above title, on a triple star in *Aquila*. The perusal of that memoir leaves, I think it will be admitted, no doubt on the mind of the reader, that Mr. Dawes has clearly shown the identity of H. i. 13 with  $\Sigma$  2545; yet it has always seemed to me, that he has not sufficiently dwelt upon *one* item in Sir W. Herschel's description of his star, which appears to establish the identity beyond all question. Sir W. Herschel says, "It is the last star of a telescopic trifolium *n* following *k*, similar to that in the hand of *Aquarius*."

In the summer of 1868 I examined this region carefully with an Equatoreal of 4-inch aperture, by Simms, and soon made out Struve's three stars Nos. 2541, 2545, and 2547, but was at first much puzzled to identify Herschel's *trifolium*, until I put on a comet eye-piece magnifying twenty-seven times with a very wide field, when the beautiful trifolium was at once visible, having Struve's No. 2545 as "the last star." It occurred to me it would be interesting to map down to scale, all the stars closely north following 37 (*k*) *Aquilæ*, which could be found in Weisse's Bessel's Catalogue, and I venture to bring the result before this Society, as in some sort supplementary to Mr. Dawes' paper. In the accompanying small map, the stars are all inserted from Weisse's Catalogue, with the exception of Struve's 2545 and 2547, which are inserted from Struve's *Positiones Mediæ* (corrected for precession to 1825), and as my object is merely to show the *relative* position of the neighbouring stars, I have not applied the pre-

cession in R.A. and Dec. to the places of Weisse's Catalogue, of which the epoch is 1825. The *trifolium* is distinguished by the dotted lines. The stars in Weisse's Bessel included in the map, are, in the order of their R.A., *Hora* xix, No. 677 (= 37 *Aquilæ*), 692, 719 (=  $\Sigma$  2541), 722, 744, 745, of which the last three and  $\Sigma$  2545 or H. i. 13 constitute the *trifolium*. Struve's stars Nos. 2545, 2547, are not contained in Weisse's Bessel.

Mr. Dawes, in the paper above mentioned, after remarking that neither South, nor Struve, nor Herschel II, nor Smyth, saw the third star of this H. i. 13., proceeds to say that he saw it on August 19th, 1862, with a 4-inch aperture object-glass, by Cooke, "with so low a power as 135." This I can confirm with my own 4-inch Equatoreal.



In July, 1868, I find the following was inserted in my Notebook:—"  $\Sigma$  2545. Best shown double with 120, third star glimpsed by averted vision, also with 200." In order to put it beyond doubt that the third star was actually seen, the same night I used Mr. Dawes' Solar eye-piece with a very small field and power 260, so as to exclude the close pair; and under these circumstances the third star was (to use Admiral Smyth's phrase) "staring."

I cannot at all account for the R.A. and Dec. given in the Cycle under the numbers 702 and 703. While the description, "the three lie nearly in a line," shows conclusively that the worthy Admiral had his telescope directed to  $\Sigma$  2547, the R.A. and Dec. given is exactly that of Struve's 2541 in the *Positiones Mediæ* for 1830, corrected for ten years' precession to bring it up to Smyth's Epoch for 1840,  $\Sigma$  2547 having more than

2<sup>m</sup> greater R.A. (This has a bearing on one of Sir John Herschel's queries, in the last *Monthly Notice* for Nov. 1871.) The R.A. of 703 does not seem to be that of any of Struve's three stars, the Dec. coinciding with that of  $\Sigma 2545$  or H. 1. 13. On the supposition that Smyth's 702 =  $\Sigma 2547$ , there is yet another difficulty not noticed by Mr. Dawes in his paper of Nov. 1862. Admiral Smyth gives the distance of the close pair =  $3''.2$ , while Mr. Dawes gives an approximative measure =  $20'' \pm$ , and Struve, as the mean of three sets of measures, =  $20''.70$ . Epoch 1835.02. Mr. Dawes, in his long and interesting note on this subject, in his Double-Star Catalogue, pp. 494-496, suggests a plausible explanation of these discrepancies. He says, "It is true that his (Smyth's) estimations of the distances of the stars composing  $\Sigma 2547$  are very far from correct; but it seems highly probable that by some means his observations of  $\Sigma 2541$  and  $\Sigma 2547$  got mingled together—an accident the more likely, as they differ but little in declination. The existence of three close double stars within a small space, in all of which the smaller component has nearly the same relative position, has caused a degree of confusion which has no parallel in any other case."

In conclusion, I may as well mention two printer's errors. The mean place of 37 *Aquilæ*, in Mr. Dawes' paper, *Monthly Notices*, vol. xxii. p. 36, is wrong. The star is No. 1580 of the first Greenwich Seven-year Catalogue, and its mean place for 1860.00 is thus recorded: R.A.  $19^h 27^m 24^s.28$  N. P. D.  $100^\circ 51' 46''.04$ . In Mr. Dawes' Catalogue, star 2715 (=  $\Sigma 2545$ ), the N.P.D. should manifestly be  $100^\circ 29'$ , not as there printed  $110^\circ 29'$ .

16 Chad Road, Edgbaston, Birmingham,  
1872, January 3.

#### *Note on the November Meteors.* By Capt. Noble.

Watching almost persistently on the night of Monday, November 13, from  $12^h 5^m$  to  $13^h 15^m$ , I failed to see a single meteor of any sort or description. The succeeding night was densely cloudy.